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| 10/502,132 | 07/20/2004 | Gerhard Schmaus | 3968.120 | 1516 |

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STEPHAN A. PENDORF, P.A.
PENDORF & CUTLIFF
5111 MEMORIAL HIGHWAY
TAMPA, FL 33634

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| EXAMINER |
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CHONG, YONG SOO

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| ART UNIT | PAPER NUMBER |
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1617

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/502,132 | Applicant(s) SCHMAUS ET AL. | |
| | Examiner Yong S. Chong | Art Unit 1617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Application

This Office Action is in response to applicant's arguments filed on 6/13/2006. Claim(s) 6 has been cancelled. Claim(s) 20-22 have been added. Claim(s) 1-5, 7-22 are pending. Claim(s) 4, 7-8 have been amended. Claim(s) 1-5, 7-22 are examined herein.

Applicant's arguments have been fully considered but found persuasive to withdraw all 112 rejections and the 103(a) rejection to claims 2, 4, 7-9 only as they are drawn to synergistic mixtures of 1,2-alkanediols. Therefore, 103(a) rejection to claims 1, 3, 5, 10-22 are maintained for reasons of record and are repeated below. The following new rejections will also apply.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board

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of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 5 recites the broad recitation "1 to 99% (m/m)", and the claim also recites "20 to 80% (m/m)" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham vs John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5, 10-22 are rejected under 35 U.S.C. 103(a) as being obvious over Clarkson et al. (US Patent Application 2001/0036964 A1) in view of Eggensperger et al. (US Patent 5,670,160) and further in view of Riebel et al. (US Patent Application 2003/0100613 A1).

The instant claims are directed to an anti-microbial composition comprising two or more 1,2-alkanediols and a preservative.

Clarkson et al. teach an anti-microbial composition comprising an iron (III) chelator, water, and polyhydric alcohol (abstract). The iron (III) chelators are utilized as anti-microbial agents in the composition (section 0001). Preferred polyhydric alcohols include 1,2-pentanediol, 1,2-hexanediol, and 1,2-octanediol, or mixtures thereof (section 0065) with amounts ranging from 1 to 20% by weight (section 0062). Additional anti-microbial agents (section 0077) as well as other additives (section 0087), such as preservatives (section 0088) may be added to the composition.

Generally, mere optimization of ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "When the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimal or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); see also *In re Peterson*, 315 F. 3d at 1330, 65 USPQ 2d at 1382 "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages." MPEP 2114.04.

However, Clarkson et al. fail to disclose expressly a composition comprising the particular combination of alkyldiols herein or the specific preservatives such as 1,2-dibromo-2,4-dicyanobutane, 2-phenoxyethanol, and 3-iodo-2-propinyl-butyl carbamate.

Eggensperger et al. teach that 1,2-dibromo-2,4-dicyanobutane (col. 16, lines 15-20) and 2-phenoxyethanol (col. 15, lines 27-35) can be used as preservatives or biocides.

Riebel et al. teach that 3-iodo-2-propinyl-butyl carbamate can be used as a fungicide (section 0328).

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made to make a composition comprising the alkyldiols herein, according to Clarkson et al. and to include 1,2-dibromo-2,4-dicyanobutane and 2-phenoxyethanol taught by Eggensperger et al. and 3-iodo-2-propinyl-butyl carbamate taught by Riebel et al. in the anti-microbial composition taught by Clarkson et al.

A person of ordinary skill in the art would have been motivated to make a composition comprising the alkyldiols herein, according to Clarkson et al. and to include the preservatives as taught by Eggensperger et al. and Riebel et al. (biocides and fungicides) in the anti-microbial composition because the mixture of the diols are known to be similarly useful as a single diol, and because of the reasonable expectancy of successfully preserving a cosmetic or food product from microbes, bacteria, and fungi.

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Examiner respectfully points out that the intended use is given no patentable weight in a composition.

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish from each other. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Thus, the intended use of a composition claim will be given no patentable weight.

It is further respectfully pointed out that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). See MPEP 2111.02.

Claims 1-2, 4, 7-9 are rejected under 35 U.S.C. 103(a) as being obvious over Clarkson et al. (US Patent Application 2001/0036964 A1) in view of Eggenesperger et al. (US Patent 5,670,160) and further in view of Riebel et al. (US Patent Application 2003/0100613 A1) and Cupferman et al (US Patent Application 2002/0098211 A1).

The instant claims are directed to a synergistic anti-microbial composition comprising two or more 1,2-alkanediols and a preservative.

Clarkson, Eggensperger, Riebel et al. teach as discussed above, however fail to disclose synergistic properties of the antimicrobial composition.

Cupferman et al. disclose a novel antimicrobial composition comprising at least one polyol in combination with 2-hydroxy-4-(1-methylethyl)cyclohepta-2,4,6-trien-1-one or sodium capryl lactyl lactylate (section 0002). The polyol is disclosed to be 1,2-alkanediols (section 0005), specifically comprising 4 to 8 carbon atoms (section 0012), such as 1,2-octanediol or 1,2-pentanediol (section 0013). Furthermore, such compositions are disclosed to possess synergistic antimicrobial action (section 0008).

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made to make a synergistic composition comprising the alkyldiols herein, according to Clarkson et al. and to include 1,2-dibromo-2,4-dicyanobutane and 2-phenoxyethanol taught by Eggensperger et al. and 3-iodo-2-propinyl-butyl carbamate taught by Riebel et al. in the anti-microbial composition taught by Clarkson et al.

A person of ordinary skill in the art would have been motivated to make a synergistic composition comprising the 1,2-alkanediols herein because: (1) Clarkson et al. discloses 1,2-alkanediols for use in antimicrobial compositions and (2) Cupferman et al. discloses synergistic antimicrobial action in compositions comprising 1,2-alkanediols. Therefore, one of ordinary skill would have had a reasonable expectation of success in formulating a synergistic antimicrobial composition comprising 1,2-alkanediols.

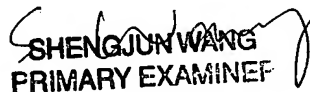
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong S. Chong whose telephone number is (571)-272-8513. The examiner can normally be reached on M-F, 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SREENI PADMANABHAN can be reached on (571)-272-0629. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YSC


SHENGJUN WANG
PRIMARY EXAMINER